**UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF VIRGINIA**

SONY MUSIC ENTERTAINMENT, *et al.*,

     Plaintiffs,

v.

COX COMMUNICATIONS, INC., *et al.*,

     Defendants.

Case No. 1:18-cv-00950-LO-JFA

CONTAINS HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY INFORMATION

DECLARATION OF VANCE IKEZOYE

I, Vance Ikezoye, hereby declare, pursuant to 28 U.S.C. § 1746, as follows:

1. I am the President and Chief Executive Officer of Audible Magic Corporation. I have personal knowledge of the following facts and, if called and sworn as a witness, could competently testify thereto. I submit this declaration in support of Plaintiffs' Opposition to Cox's Motion For Discovery Sanctions And To Preclude Plaintiffs' Use Of MarkMonitor Evidence.

Background

2. Audible Magic is the leader in automated identification of audio and visual content for web media platforms and social networks. Our content identification systems have been in production for years and are trusted by major customers such as Dailymotion, Facebook, SoundCloud, Twitch, and Vimeo.

3. Audible Magic is the de-facto standard for identification of music for compliance/rights with content registered by the major music labels (Universal Music Group, Sony Music, Warner Music Group) and the major music aggregators/associations (Orchard, IODA, IRIS, Merlin),
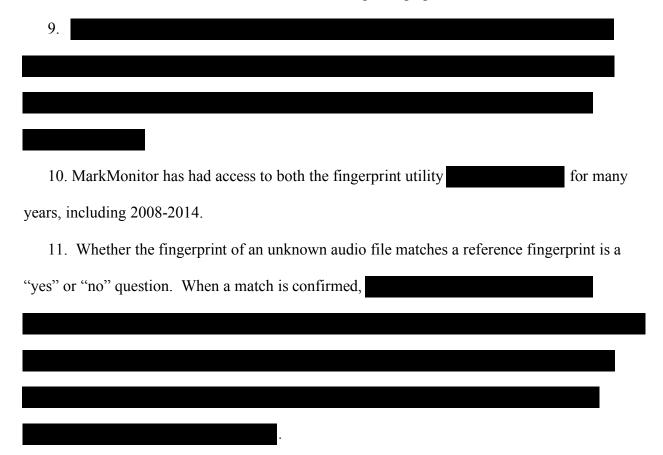
which manage content from thousands of independent labels and artists. Our database contains

tens of millions of songs and is populated by most of the record labels pre-release. Audible

Magic has also built content relationships with the major studios, including NBCU, Fox,

Viacom/MTV, Warner Bros, Sony Pictures, and Disney/ABC. Our database contains hundreds

of thousands of titles including TV and film content, much of the new content is registered with

Audible Magic pre-release/pre-broadcast.

4.   Audible Magic was founded in 1999 to enable a radically new user experience with a

breakthrough audio identification technology. Audible Magic pioneered the use of Automatic

Content Recognition (ACR) in a range of applications. Over the years Audible Magic has been

granted 65 patents across the U.S. and Europe.

5.   The core of Audible Magic's work is audio recognition technology that classifies sound

based on its perceptual characteristics. A company called Muscle Fish, LLC, which began in

1992 and which Audible Magic acquired in July 2000, originally developed the technology. This

technology relies on Mel-Filtered Cepstral Coefficients ("MFCCs"), which are measurements

that accurately characterize and model audio in the same way the ear perceives sound. When a

person hears any sound, the human ear perceives the spectra of the sound. (A spectrum measures

amplitude as a function of frequency.) We have found that measuring the shape of the spectrum

is the method of identifying uniqueness in a segment of audio that is the most accurate and

robust, i.e. able to work in many different environments and despite changes in format and

acoustic and digital modifications. Thus, Audible Magic's technology analyzes the shape of the

spectrum inherent in a digital audio file. The MFCC describes the shape of that spectrum,

adjusted for the way that the human ear actually perceives sound.

6.   The analysis performed by this technology produces a set of numeric values called a

"feature vector" or "digital fingerprint," which is absolutely unique to a particular master

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recording, whether a sound recording or the soundtrack to a video or motion picture. In essence, each digital fingerprint identifies a master recording, much as a human fingerprint identifies a person. The fingerprinting technology works on all forms of audio, regardless of the digital format into which the audio has been encoded. Below, I use the shorthand "fingerprint" to refer to the "feature vector" or "digital fingerprint."

Content Identification System

7. Audible Magic possesses a "reference database" of fingerprints from millions of copyrighted sound recordings. This database represents a substantial selection of the music available worldwide and consists of music from the major music labels and many of the independent music labels.

8. Audible Magic customers and partners have access to software (i.e., a fingerprint utility) that converts the unknown audio into an Audible Magic fingerprint.

9. ███

10. MarkMonitor has had access to both the fingerprint utility ███████████ for many years, including 2008-2014.

11. Whether the fingerprint of an unknown audio file matches a reference fingerprint is a "yes" or "no" question. When a match is confirmed, ██.

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12. ███

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13. When Audible Magic matches the unknown fingerprint to a reference, it provides the

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15. ███

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c. ███████████████████████████████████
██████████████████ begins.

16. Based on Audible Magic's experience in the design and practical use of its software for
millions of look-ups per day over a decade, Audible Magic has determined that ████████

███

██████████████████████████████████████

17. The fields of information discussed in paragraphs 14-15 are not necessary to answer the
"yes" or "no" question of whether an unknown file matches a copyrighted work. As explained
above, that question is answered by our confirmation that Audible Magic found a match to a
reference fingerprint, indicated by our delivery of the ██████████████

18. The additional information discussed in paragraph 15 may be useful for certain customers
for other reasons. For example, it can assist websites or companies hosting content (i.e., a video
game streaming company) to readily identify the location, scope and duration of infringing
content on its platform for removal or muting of the audio. In particular, the combination of the
match offset, match duration, and track duration enables that customer to "skip ahead" to
examine different parts of the file or skip to the end of the file.

Executed in _Los Gatos_   this _12th_ day of September, 2019
California

Vance Ikezoye (signature)
Vance Ikezoye

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